

What is claimed is:

- 1 1. A method for reproducing a digital data stream containing program  
2 information for trick mode display, said method including the steps:  
3 decoding the incoming digital data stream in normal playmode,  
4 creating a group of picture structure history during normal decoding,  
5 storing said history in a GOP history logger,  
6 editing for playback in trick mode said digital data stream using said  
7 history,  
8 decoding said edited bitstream for trick mode display.  
9
- 1 2. The method of claim 1, wherein said step decoding in normal playmode  
2 includes the step of;  
3 maintaining and displaying a last decoded picture during decoding of said  
4 edited bitstream for trick mode.
- 1 3. The method of claim 2, wherein said step decoding said edited bitstream  
2 includes the step of;  
3 decoding invisibly using two frame buffers.
- 1 4. The method of claim 3, wherein said step decoding said edited bitstream  
2 includes the step of;  
3 decoding a B-frame without storing its content.
- 1 5. The method of claim 1, comprising a further step of;  
2 controlling trick mode playback by a trick mode controller.

1 6. The method of claim 5, wherein said step controlling trick mode playback  
2 comprises the following steps;

3 receiving a command from a mode request unit,  
4 requesting content of said group of picture history responsive to said mode  
5 request ,

6 controlling a pick-up device for data stream selection,  
7 enabling said bitstream editing for trick mode application,

8 controlling said decoding,  
9 initiating a display switch for displaying said target picture or a sequence of  
10 target pictures.

1 7. The method of claim 5, wherein said step controlling trick mode playback  
2 comprises the following steps;

3 receiving a command from a mode request unit,  
4 requesting content of said group of picture history based on said  
5 mode command,

6 controlling a pick-up device for data stream selection,  
7 enabling said bitstream editing for trick mode application,

8 controlling said decoding,  
9 adding a time stamp to said bit stream to provide display switching  
10 information.

1 8. A digital device for reproducing a digital data stream containing program  
2 information for trick mode display, comprising:

3 a decoder for decoding the incoming digital data stream in normal  
4 playmode;

5 extraction means for creating a group of picture structure history  
6 during normal decoding;

7 a memory coupled to said extraction means for storing said history;

8 an editor coupled to said memory for editing said digital data stream  
9 using said history for playback in trick mode ;

10 a decoder for decoding said edited bitstream for trick mode; and,

11 an output for providing that decoded target picture or a sequence of  
12 target pictures for displaying.

1 9. The device of claim 8, further comprising:

2 an enabling means for controlling the display of the last decoded  
3 picture during decoding of said edited bitstream for trick mode.

1 10. The device of claim 9, further comprising:

2 two frame buffers for storing the decoded bitstreams..

1 11. The device of claim 10, wherein:

2 said decoding of said edited bitstream for trick mode is performed on  
3 a B-frame without storing its content.

1 12. The device of claim 8, further comprising:

2 a trick mode controller for controlling said playback in trick mode.

1 13. The device of claim 12, further comprising:

2 a mode request unit coupled to said trick mode controller,  
3 and responsive to said mode request unit said trick mode controller accesses said  
4 history from said memory;

5 a pick-up device controllably coupled to said trick mode controller  
6 for controlling data stream selection;

7 wherein a trick mode application said trick mode controller is  
8 controllably coupled to said editor to enable said bitstream editing, and said trick  
9 mode controller is controllably coupled to said decoder for controlling said  
10 decoding, and said trick mode controller is controllably coupled to said output for  
11 initiating said display switch to display said target picture or a sequence of target  
12 pictures.

1 14. The device of claim 12, wherein further comprises:

2 a mode request unit coupled said trick mode controller, and  
3 responsive to said mode request unit said trick mode controller accesses said  
4 history from said memory;

5 a pick-up device controllably coupled to said trick mode controller  
6 for controlling data stream selection,

7 wherein an trick mode application said trick mode controller enables  
8 said editor for editing said bitstream, and said trick mode controller being  
9 controllably coupled to said decoder for controlling decoding, and wherein said  
10 trick mode controller adds a time stamp to said bit stream to provide display  
11 switching information.

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